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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,503	02/13/2001	Robert T. Stone	33882/US/2	9929

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EXAMINER	
GRIER, LAURA A	
ART UNIT	**PAPER NUMBER**
2644	10

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/782,503	STONE ET AL.	
	Examiner	Art Unit	
	Laura A Grier	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on 03/08/04 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 09782503 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Double Patenting

2. Applicant is advised that should claim 10 be found allowable, claim 14 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-5, 7-14** are rejected under 35 U.S.C. 102(b) as being anticipated by Geisler et al, U. S. Patent No. 4809708.

Regarding ***claim 1, 10 and 14***, Geisler et al. (herein, Geisler) discloses a method and apparatus for real bar measurements (figure 1). Geisler's disclosure comprises a computer controller via the loudspeaker to a hearing aid (references 24, 28 and 19, col. 4, lines 50-56, and col. 5, lines 16-24), which reads on "stimulus generating means for transmitting (or presenting) at least one true random stimulus sequence to a subject's inner ear"; and a microphone coupled to a probe tube (references 20 and 17, col. 5, lines 25-27), which reads on a detection means for detecting the response signal returned from the subject's inner ear in response to said stimulus sequence.

Regarding **claim 2**, Geisler discloses everything claimed as applied above (see claim 1). Geisler further indicates the computer controller (reference 24, col. 5, lines 25-27) as being an analyzer means for controlling the stimulus generating means and analyzing the response signal.

Regarding ***claim 11***, Geisler combination discloses the generation of pure tone random phased sequences (col. 5, lines 16-27), which indicates a plurality of true random stimulus sequences.

Regarding ***claims 3 and 7,*** Geisler discloses a method and apparatus for real bar measurements (figure 1). Geisler's disclosure comprises a computer controller via the loudspeaker to a hearing aid (references 24, 28 and 19, col. 4, lines 50-56, and col. 5, lines 16-27), which reads on "stimulus generating means for transmitting (or presenting) at least one true random stimulus sequence to a subject's inner ear" and acts that the sampling means, the frequency response signal comprising of a waveform (col. 5, lines 28-32); the computer controller further provides the technique of FFT of

the frequency response which reads on waveform reconstruction means, wherein it is inherent that a plurality of random frequencies are applied to the response signal as evident of FFT (col. 3, lines 1-21) and (col. 7, lines 46-51).

Regarding ***claims 4 and 9***, Geisler discloses everything claimed as applied above (see claim 3, and 7, respectively). Geisler further indicates the computer controller (reference 24, col. 5, lines 25-27) as being an analyzer means for analyzing the response signal, which controlling the sampling means.

Regarding ***claim 5***, Geisler discloses everything claimed as applied above (see claim 3). Geisler further indicates the computer controller (reference 24, col. 5, lines 25-27) as being an analyzer means for analyzing the response signal, which analyzing the 1^{st} waveform.

Regarding ***claim 8***, Geisler discloses everything claimed as applied above (see claim 7). Geisler further indicates the computer controller (reference 24, col. 5, lines 25-27) as being an analyzer as well which indicated means for controlling the stimulus generating means.

Regarding ***claims 12 and 13,*** Geisler discloses a method and apparatus for real bar measurements (figure 1). Geisler's disclosure comprises a computer controller via the loudspeaker to a hearing aid (references 24, 28 and 19, col. 4, lines 50-56, and col. 5, lines 16-27), which reads on "stimulus generating means for transmitting (or presenting) at least one true random stimulus sequence to a subject's inner ear" and acts that the sampling means, the frequency response signal comprising of a waveform (col. 5, lines 28-32); a microphone (20) detects the response signal, the computer

controller further provides the technique of FFT of the frequency response which reads on waveform reconstruction means, wherein it is inherent that a plurality of random frequencies are applied to the response signal as evident of FFT (col. 3, lines 1-21), and data from the control is supplied to a display device (33) and graphic plotter (34), where the data is recorded or in the memory of the computer controller (col. 4, lines 68 – col. 5, lines 1-3, and col. 7, lines 46-51), which reads on recording a set of response signal data and reconstructing, therein.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geisler in view of Bye et al, U. S. Patent No. 6366863.

Regarding ***claim 15***, Geisler's disclosure comprises a computer controller via the loudspeaker to a hearing aid, which is coupled to a sound delivery tube and may directly coupled to the sound transducer (loudspeaker), wherein the loudspeaker generates a 1st sound wave for input into the ear of the user (references 24, 28, 19 and 18, col. 4, lines 50-56, and col. 5, lines 16-24), which reads on a "stimulus signal generator";

and a microphone coupled to a probe tube and hearing aid and delivery tube, therein (references 20 and 17, col. 5, lines 25-27), which reads on a detector including a microphone, therein;

the computer controller (24) – col. 4, lines 38-53 and col. 5, lines 16-21 and 25-27) reads a computer;

and amplifier (21) for receiving the response signal from the microphone, which constitutes as a conditioning circuit. However, Geisler fails to specifically disclose a conditioning filter included in the conditioning circuit.

In a similar field of endeavor, Bye et al. (herein, Bye) disclose a hearing related analysis system. Bye's system disclose the use of an adjustable filter coupled with an amplifier (col. 7, lines 29-36), which constitutes as a conditioning filter.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Geisler by incorporating an adjusting filter with the amplifier for the purpose of adjusting the characteristics of the amplified signal in respect the hearing characteristics of the listener or user of the hearing device.

Regarding ***claim 16***, Geisler and Bye (herein, Geisler combination) discloses everything claimed as applied above (see claim 15). Geisler combination discloses a computer controller (reference 24, col. 5, lines 16-21 and 25-27) coupled via a loudspeaker and hearing aid which constitutes as the stimulus generator and thus controls the generator, therein.

Regarding ***claim 17***, Geisler combination discloses everything claimed as applied above (see claim 15). Geisler combination further discloses the generation of

pure tone random phased sequences in respect to a function of frequency (Geisler- col. 5, lines 16-27), which indicates the sequences devoid of a definitive pattern or relationship with time.

Regarding **claims 18 and 19**, Geisler combination discloses everything claimed as applied above (see claim 15). Geisler combination further that the stimuli may be among any various well-known type (col. 5, lines 16-21). Thus, it would have been obvious to one of the ordinary skill in the art at time the invention to implement one or more of the varied (increasing and/or decreasing) types of stimulus applications for the purpose of providing a desired stimulus required to achieve adequate and enhance audiometric results.

Regarding ***claim 20***, Geisler combination discloses the generation of pure tone random phased sequences in respect to a function of frequency by the computer controller (col. 5, lines 16-27), which reads on the stimulus signal generator generating electrical signals with true random stimulus frequencies, and the computer (computer controller) being operative to provide true random sampling frequencies.

7. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Geisler.

Regarding **claim 6 ,** Geisler discloses a method and apparatus for real bar measurements (figure 1). Geisler's disclosure comprises a computer controller via the loudspeaker to a hearing aid (references 24, 28 and 19, col. 4, lines 50-56, and col. 5, lines 16-27), which reads on "stimulus generating means for transmitting (or presenting) at least one true random stimulus sequence to a subject's inner ear" and acts that the

sampling means, the frequency response signal comprising of a waveform (col. 5, lines 28-32); the computer controller further provides the technique of FFT of the frequency response which reads on waveform reconstruction means, wherein it is inherent that a plurality of random frequencies are applied to the response signal as evident of FFT (col. 3, lines 1-21) and (col. 7, lines 46-51). Because the stimulus is transmitted via the loudspeaker to a hearing aid, noise from the speaker output may be transmitted thereto the hearing and/or via the second microphone (30), it is obvious that the response signal may comprises a second wave form which comprises a noise signal. Thus it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Geisler by providing a response signal with two waveforms for the purpose of adequately performing the audiometric testing in respect to taking in consideration of external components such as noise that may be present in the environment or caused by the electrical devices of the system.

Response to Arguments

8. Applicant's arguments, see pages 6-8, filed 04/08/04, with respect to the rejection(s)of claim(s) 1-2, 10-11 and 14 under USC 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Geisler et al. and Bye et al. Geisler, the primary reference discloses providing a pure tone in a random sequence into the ear canal of a listener, having a detecting means (a microphone), and

mean of controlling and analyzing the response signal detected by the detection means, which the essential concept of the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

LAG
May 16, 2004